```
gttttgcgtat tgggcgctct tccgcttcct cgctcactga ctcgctgcgc tcggtcgttc 5940

ggctgcggcg agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag 6000

gggataacgc aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa 6060

aggccgcgtt gctggcgttt ttcgataggc tccgcccccc tgacgagcat cacaaaaatc 6120

gacgctcaag tcagaggtgg cgaaacccga caggactata aagataccag gcgtttcccc 6180

ctggaagctc cctcgtgcgc tctcctgttc cgaccctgcc gcttaccgga tacctgtccg 6240

cctttctccc ttcgggaagc gtggcgcttt ctcatagctc acgctgtagg tatctcagtt 6300

cggtgtaggt cgttcgctcc aagctgggct gtgtgcacga accccccgtt cagcccgacc 6360

gctgcgcctt atccggtaac tatcgtcttg agtccaaccc ggtaagacac gacttatcgc 6420

cactggcagc agccactggt aacaggatta gcagagcgag gtatgtaggc ggtgctacag 6480

agttcttgaa gtggtggcct aactacggct acactagaag gacagtattt ggtatctgcg 6540

ctctgctgaa gccagttacc ttcggaaaaa gagttggtag ctcttgatcc ggcaaacaaa 6600

ccaccgctgg tagcggtggt ttttttgttt gcaagcagca gattacgcgc agaaaaaaag 6660

gatctcaaga agatcctttg atcttttcta cggggtctga cgctcagtgg aacgaaaact 6720

cacgttaagg gattttggtc atgagattat caaaaaggat cttcacctag atccttttaa 6780

attaaaaatg aagttttaaa tcaatctaaa gtatatatga gtaaacttgg tctgacagtt 6840

accaatgctt aatcagtgag gcacctatct cagcgatctg tctatttcgt tcatccatag 6900

ttgcctgact ccccgtcgtg tagataacta cgatacggga gggcttacca tctggcccca 6960

gtgctgcaat gataccgcga acccacgct caccggctcc agatttatca gcaataaacc 7020

agccagccgg aagggccgag cgcagaagtg gtcctgcaac tttatccgcc tccatccagt 7080

ctattaattg ttgccgggaa gctagagtaa gtagttcgcc agttaatagt ttgcgcaacg 7140

ttgttggcat tgctacaggc atcgtggtgt cacgctcgtc gtttggtatg gcttcattca 7200

gctccggttc ccaacgatca aggcgagtta catgatcccc catgttgtgc aaaaaagcgg 7260

ttagctcctt cggtcctccg atcgttgtca gaagtaagtt ggccgcagtg ttatcactca 7320

tggttatggc agcactgcat aattctctta ctgtcatgcc atccgtaaga tgcttttctg 7380

tgactggtga gtactcaacc aagtcattct gagaataccg cgccggcga ccgagttgct 7440

cttgcccggc gtcaatacgg ataatagtg tatgacatag cagaacttta aaagtgctca 7500

tcattggaaa acgttcttcg gggcgaaaac tctcaaggat cttaccgctg ttgagatcca 7560

gttcgatgta acccactcgt gcacccaact gatcttcagc atctttact ttcaccagcg 7620

tttctgggtg agcaaaaaca ggaaggcaaa atgccgcaaa aaagggaata agggcgacac 7680

ggaaatgttg aatactcata ctcttccttt ttcaatatta ttgaagcatt tatcagggtt 7740
```

attgtctcat gagcggatac atatttgaat gtatttagaa aaataaacaa atagggggttc 7800

cgcgcacatt tccccgaaaa gtgccacctg tatgcggtgt gaaataccgc acagatgcgt 7860

aaggagaaaa taccgcatca ggcgaaattg taaacgttaa tattttgtta aaattcgcgt 7920

taaatatttg ttaaatcagc tcattttta accaataggc cgaaatcggc aaaatccctt 7980

ataaatcaaa agaatagacc gagatagggt tgagtgttgt tccagtttgg aacaagagtc 8040

cactattaaa gaacgtggac tccaacgtca aagggcgaaa aaccgtctat caggggcgatg 8100

gcccactacg tgaaccatca cccaaatcaa gttttttgcg gtcgaggtgc cgtaaagctc 8160

taaatcggaa ccctaaaggg agcccccgat ttagagcttg acgggggaaag ccggcgaacg 8220

tggcgagaaa ggaagggaag aaagcgaaag gagcggggcgc tagggcgctg gcaagtgtag 8280

cggtcacgct gcgcgtaacc accacacccg ccgcgcttaa   8320

<210> 74
<211> 250
<212> PRT
<213> Clostridium acetobutylicum

<400> 74
Asn Lys Arg Ala Ala Phe Met Leu Leu Leu Phe Leu Arg Ser Val Leu
  1   5   10   15

Lys Val Ile Leu Val Leu Asp Val Gly Asn Thr Asn Ile Val Leu Gly
             20   25   30

Ile Tyr Asn Asp Thr Lys Leu Thr Ala Glu Trp Arg Leu Ser Thr Asp
         35   40   45

Val Leu Arg Ser Ala Asp Glu Tyr Gly Ile Gln Val Met Asn Leu Phe
     50   55   60

Gln Gln Asp Lys Leu Asp Pro Thr Leu Val Glu Gly Val Ile Ile Ser
 65   70   75   80

Ser Val Val Pro Asn Ile Met Tyr Ser Leu Glu His Met Ile Arg Lys
                 85   90   95

Tyr Phe Lys Ile Asn Pro Leu Val Val Gly Pro Gly Ile Lys Thr Gly
             100   105   110

Ile Asn Ile Lys Tyr Asp Asn Pro Lys Glu Val Gly Ala Asp Arg Ile
         115   120   125

Val Asn Ala Val Ala Ala His Glu Ile Tyr Lys Arg Ser Leu Ile Ile
     130   135   140

Ile Asp Phe Gly Thr Ala Thr Thr Phe Cys Ala Val Arg Glu Asn Gly
145   150   155   160

Asp Tyr Leu Gly Gly Ala Ile Cys Pro Gly Ile Lys Val Ser Ser Glu
                 165   170   175

```
Ala Leu Phe Glu Lys Ala Ala Lys Leu Pro Arg Val Glu Leu Ile Lys
            180                 185                 190

Pro Ala Tyr Ala Ile Cys Lys Asn Thr Ile Ser Ser Ile Gln Ser Gly
            195                 200                 205

Ile Val Tyr Arg Tyr Leu Arg Gln Val Lys Tyr Leu Phe Glu Lys Leu
    210                 215                 220

Lys Glu Asn Leu Pro Asp Gly Arg Arg Thr Arg Thr Ser Leu Val Leu
225                 230                 235                 240

Ala Thr Gly Gly Leu Ala Lys Leu Ile Asn
            245                 250
```

<210> 75
<211> 258
<212> PRT
<213> Rhodobacter capsulatus

<400> 75

```
Met Leu Leu Cys Ile Asp Cys Gly Asn Thr Asn Thr Val Phe Ser Val
  1             5                10                 15

Trp Asp Gly Thr Asp Phe Ala Ala Thr Trp Arg Ile Ala Thr Asp His
            20                 25                 30

Arg Arg Thr Ala Asp Glu Tyr Phe Val Trp Leu Asn Thr Leu Met Gln
        35                 40                 45

Leu Lys Gly Leu Gln Gly Arg Ile Ser Glu Ala Ile Ile Ser Ser Thr
    50                 55                 60

Ala Pro Arg Val Val Phe Asn Leu Arg Val Leu Cys Asn Arg Tyr Phe
65                 70                 75                 80

Asp Cys Arg Pro Tyr Val Val Gly Lys Pro Gly Cys Glu Leu Pro Val
            85                 90                 95

Ala Pro Arg Val Asp Pro Gly Thr Thr Val Gly Pro Asp Arg Leu Val
            100                105                110

Asn Thr Val Ala Gly Tyr Asp Arg His Gly Gly Asp Leu Ile Val Val
            115                120                125

Asp Phe Gly Thr Ala Thr Thr Phe Asp Val Val Ala Pro Asp Gly Ala
    130                135                140

Tyr Ile Gly Gly Val Ile Ala Pro Gly Val Asn Leu Ser Leu Glu Ala
145                150                155                160

Leu His Met Ala Ala Ala Ala Leu Pro His Val Asp Val Thr Lys Pro
            165                170                175

Gln Gly Val Ile Gly Thr Asn Thr Val Ala Cys Ile Gln Ser Gly Val
            180                185                190

Tyr Trp Gly Tyr Ile Gly Leu Val Glu Gly Ile Val Arg Gln Ile Arg
        195                200                205
```